$g = yy$, $h = 0$, $i = 0$. in utroque caſu fiet $Z =$

$$Z = \frac{yy}{n} + \frac{y^5}{n^4} + \frac{37y^8}{n^7} + \frac{12y^{11}}{n^{10}} \text{ \&c.}$$

V.

An Account of the Appearance of ſeveral Unuſual Parhelia, *or* Mock-Suns, *together with ſeveral Circular Arches lately ſeen in the Air by* E: Halley.

ON the Eighth of *April*, this preſent Year, 1702, walking in *London* Streets about ten in the Morning, the Air being clear, I obſerved the Sun to ſhine faintly, or as we call it, wateriſh; whereupon caſting up my Eye, I perceived ſeveral Arches of Circles about him. I made what haſt I could to get on the top of a Houſe, which I did at Mr. *Mordens* by the Royal *Exchange*, and found the Appearance as is deſcribed in Figure 4. *Tab.* 3° wherein

S is the true Sun, *Z* the Zenith.

S T P P a great white Circle paſſing through the Sun, and as near as I could judge, parallel to the Horizon. It was very diſtinct and entire, about two Degrees broad in the *Northern* part about *T*; and held much the ſame breadth in the *Eaſt* and *Weſt*, but grew narrower towards the Sun, its edges were not very well defined, the whole appearing like a faint white Cloud, and a part of it would have been taken for ſuch, but the whole Circle ſeen in the pure Azure Sky was a very ſurprizing ſight.

V N X T a *Halo*, or rather *Iris*, that was likewiſe an intire Circle, having the Sun for its Center. I meaſured the Semidiameter of this to be much about 22 Degrees: the breath of this Arch which was well defined, was by eſtimate equal to the Suns Diameter, and it was coloured with the Colours of the *Iris*, but nothing near ſo *vivid* as in the common Rainbow. The *Reds* were next the Sun, and the *Blews* in the outward Limb. Within this Circle the Sky appeared ſomewhat obſcure, eſpecially near the Arch; and I take it, that the cauſe of that

that Obſcurity was likewiſe cauſe that the Sun ſhone ſo faint and wateriſh. I expected two *Parhelia* at *X* and *T* in the Interſections of this with the white Circle, having often ſeen them at that diſtance and poſition from the true Sun, but at this time none ſuch appeared.

P V P. an arch of another Circle, of which only the upper part appeared, it was in all reſpects, both for breadth and Colours like the Circle *V N X T* which it touched in the Vertical Point *V*, but its Center was below at *N*, or near it. In the Interſections of this Arch with the white Circle on both ſides were two very bright *Parhelia*, ſo luminous, that I do not remember to have ſeen the like, which were alſo tinged with Colours, eſpecially on the ſide next the Sun, where they were very red. I meaſured their diſtance from the true Sun, and found it 31 ½ Degrees. About *V* where the two Arches were coincident, it was very bright likewiſe, and the *Red* on the inſide very ſtrong, that ſome might have imagined another Sun there alſo, but the *Species* thereof was drawn out ſo in length, that it could not properly be called a *Parhelion*: This Arch *P V P* broke off on both ſides, about five or ſix Degrees below the *Parhelia P. P.*

At *N*, or the lower part of the Circle *V N X T*, there appeared likewiſe a ſmall piece of an Arch, which touched it there, after the ſame manner as *P V P* touched in *V*; it ſeemed to have its Center in *V*, and about *N* there appeared another longiſh red *Species*, ſuch as at *V*, but not altogether ſo bright.

The height of the Sun, during the Obſervation, was from 40 to 45 Degrees, when Clouds interpoſing, no more was to be ſeen; the Weather was cooler than ordinary, with a gentle *N W* Wind. And it was plain that the Vapour which cauſed this Appearance, was higher than the Clouds, for they were ſeen to drive under the Circles.

VI.

N°·1·

GALLOR
VOTANN
NIEIVSPOP IRRIBVS
IVNDAMEN ERVNTSVB
GL·XENEPHO EG N·PR
CVRANTE

N°·1·

COH VI
DDELIMIA
NA

2

ORB

7

COHVI
LI BE
M S

ELIVLI

4

I O M

T·NVMINIBVS
AVG·COH·ITV
NGRORVM
MILCVI·RÆE
ST·Q·VERIVS
SVPERSTIS
PRAEFECTVS

2

NI VENO RI
G OFERSIONIS
ROMVLOALIMAHI

MANSVETIOSENICIONI
RE VINCE QVARTIONIS
ERESIPROGVRAVIT·DELF
VSRAVTIONIS·EXG·S·

3

LEG·VI·V·P·F·
V·S·L·L·M·

f

D M
CIV L FL
INGEN

MI LEG
VIV F

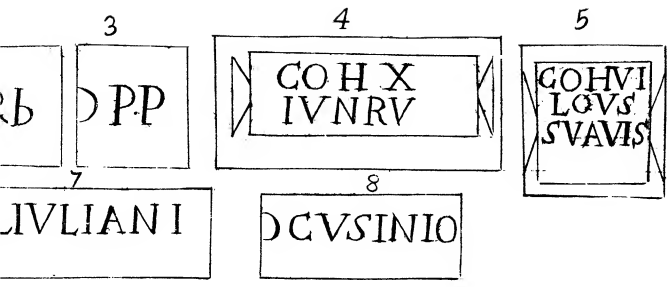
DC
CI
PI
V

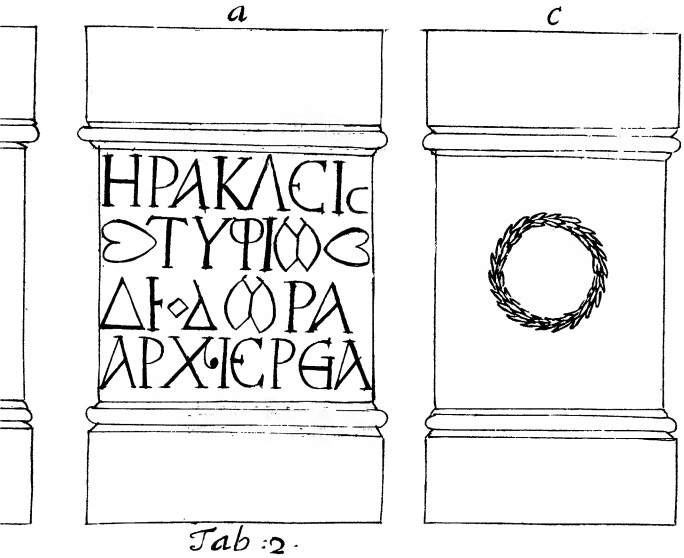
b

5

ET·NVMINIBVS
AVG·COH·I·
TVNGROR·
CVI·PRAEEST
Q·IVL·MAXI
MVS·PRAEF

Tab:1·





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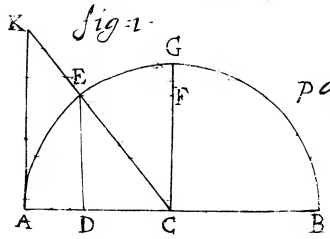
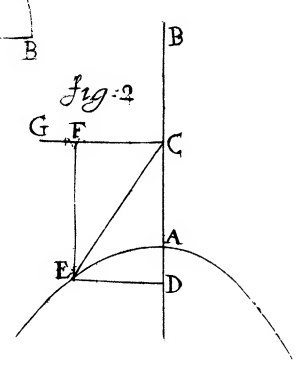
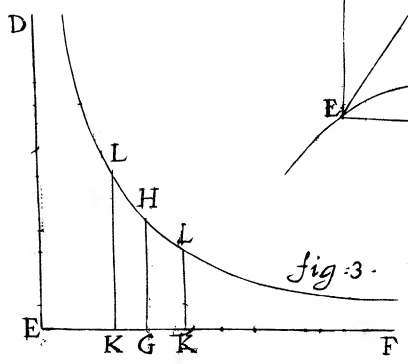


pag: 118

Fig: 2





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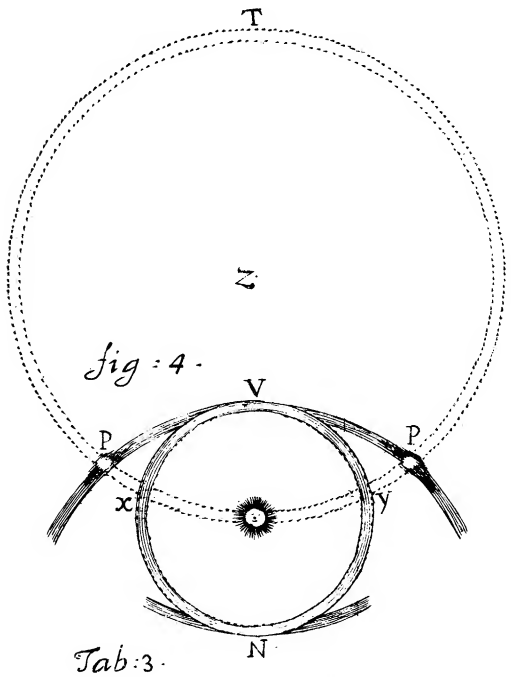
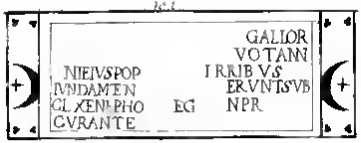


Fig: 4.

Tab: 3.


GALLOR
VOTANN
NIEIVSPOP
IVNDAMEN
ERVNTSVB
GL XENPHO
EG
NPR
GVRANTE

GOH VI
DELIMIN
NA
ORb
PP
GO H X
IVNRV
GORVI
LOYS
SVAVIS
GOHVI
LI BE
M S
ELIVLIANI
DCVSINIO

Fig 1
Fig 2
Fig 3

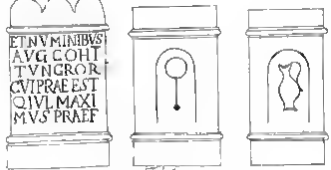
I O M
ET NVMINIBVS
AVG COHTV
NGRORVM
MILGVI RAE
ST Q VERIVS
SVPER STIS
PRAEFECTVS

LEGVI VPF
VSLLM

D M
CIVL FL
INGEN
MI LEG
VIV F

DOLOCHENO
CIVL PVBL
PIVS TRIB
V S L M

IMPERATC
MAVRELIOAN
POTESTAT


ET NVMINIBVS
AVG COHT
TVNGROR
CVI PRAEEST
QIVL MAXI
MVS PRAEF

HPAKAC
CTYTIOC
ΔΙΟΚΛΟΠΑ
ΑΡΧΙΕΠΕΩΝ

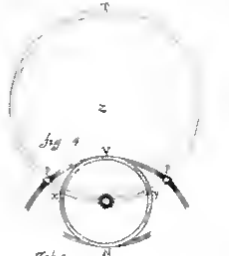


Fig 4